

REMARKS/ARGUMENTS

The Examiner asserts that Figures 1-4 should be labeled "prior art."

Figures 1-4 represent an integral part of this invention, and the subject matter thereof is not prior art. The specification nowhere suggests that Figs. 1-4 are considered prior art and, in fact, the descriptions of the figures on pages 3 and 4 indicate they represent one embodiment of the invention.

The Examiner has rejected claims 6, 13 and 25 under 35 U.S.C. 112, second paragraph as indefinite, contending that the phrase "average performance" is vague.

It is respectfully submitted that the term as used in the claims would not be considered indefinite by one of ordinary skill in the art. In this regard, it would be readily apparent to one of ordinary skill in the art that average performance refers to performance characteristics over a given period of time, with individual readings averaged in the usual manner to produce a single number that may be referred to as average performance. As stated in the paragraph bridging pages 4 and 5 of the application,

The turbine optimizer may provide a comparison of these performance characteristics versus the performance characteristics of similar turbines. For example, the turbine optimizer may indicate the average performance of similar turbines and the best performance of similar turbines.

This is not unlike a trip computer in an automobile where one may monitor instantaneous miles per gallon, average miles per gallon (based on instantaneous readings averaged over time) and the highest miles per gallon. The point is that the claims are not referring to specific numerical values but rather, the concept of a measure of performance

over a period of time, i.e., average performance. Again, one of ordinary skill in the art would have had no difficulty understanding the phraseology as of the filing date of this application. Accordingly, it is respectfully submitted that claims 6, 13 and 25 are in full compliance with 35 U.S.C. 112, second paragraph.

The Examiner rejects claims 11 and 28 under 35 U.S.C. 112, second paragraph as indefinite, the Examiner contending that the phrase "various readings" is vague and indefinite. By this amendment, applicant has deleted the term "various" and has replaced it with "a plurality of," thereby removing any indefiniteness from the claim language.

The Examiner has also rejected claims 7, 14 and 26 under 35 U.S.C. 112, second paragraph as indefinite, the Examiner contending that the phrase "highest performance" is indefinite.

For the same reasons as presented above in connection with the rejection of claims 6, 13 and 25, it is respectfully submitted that one of ordinary skill in the art would understand the phraseology "highest performance" as of the filing date of this application. In this regard, a highest performance figure does not refer to a specific number but rather, to a performance characteristic reading that is higher than any other of such readings. Thus, claims 7, 14 and 26 are also in full compliance with 35 U.S.C. 112, second paragraph.

The Examiner has rejected claims 14, 20, 25, 26, 32 and 33 under 35 U.S.C. 112 as indefinite, based on the utilization of the phrase "similar" in those claims.

In response, it is believed one of ordinary skill in the art would recognize the term "similar turbines" to mean those turbines that can provide a basis for meaningful comparison. Thus, for a particularly rated, double-flow gas turbine, it would have been apparent that a "similar" turbine would be a gas (not a steam) turbine of the same or very close rating and also of the same general construction.

Thus, the claims as written are in full compliance with 35 U.S.C. 112.

The Examiner has rejected claims 1-9, 11-18, 20-29 and 31-40 under 35 U.S.C. 102(b) as anticipated by Reed et al. The Examiner contends that Reed et al. teaches a gas turbine simulation system which utilizes the Java language environment software across the Internet, with specific application of the reference to claim language found on pages 4-12 of the Official Action.

In response, Reed proposes an educational simulator wherein various engine data are inputted and a theoretical output is calculated to understand its behavior. The present invention, in addition to doing what a comprehensive simulator can do, also utilizes live engine M&D data (monitoring and diagnostic signals) to calculate live or real time performance for a real or operational turbine. In this regard, Reed's simulator is not capable of capturing hundreds of live data bits coming from actual sensors installed on a particular operating machine. Reed's simulator can only take dummy, theoretical or design data that is pre-calculated based on physics rules. Many of these rules have assumptions built into them which result in differences observed during actual performance.

Individual engine performance is based on a source book which reflects the true status of the installed configuration of the engine. This feature of capturing source book or its equivalent does not exist in the Reed simulator.

The claimed invention is used to actually improve upon the performance of a real turbine, and not to merely educate or train people based on theoretical input. In addition, Reed's simulator does not have a clear feedback loop while in the claimed arrangement, operating bounds are defined and any violations of limits can be fed back into an operational corrective circuit.

To further distinguish between the claimed arrangement and Reed, the independent claims have been amended to refer to an "operational turbine," determining "current performance characteristics of the operational turbine" and so on, to make it clear that the claimed method does not merely relate to an educational simulator tool. Thus, the rejected claims cannot be regarded as anticipated by Reed, and this ground of rejection should now be withdrawn.

Claims 10, 19, 30 and 41 have been rejected under 35 U.S.C. 103 as unpatentable over Reed in view of Kita et al. Kita is cited for teaching calculating optimum operation parameters of a boiler turbine generator while taking into account the cost.

Since Kita fails to remedy the deficiencies of Reed as described above, the combination of references is insufficient to render obvious the subject matter of claims 10, 19, 30 and 41.

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For all of the above reasons, it is respectfully submitted that the application is now in condition for allowance, and early passage to issue is requested. In the event, however, any small matters remain outstanding, the Examiner is encouraged to telephone the undersigned so that the prosecution of this application can be expeditiously concluded.

Respectfully submitted,

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